CLAIMS

1. A method for controlling amplification of a high-frequency intermittent signal, the method comprising the steps of:

passing a radio-frequency signal to be amplified in a controlled loop to a variable-gain amplifier, a gain being controlled by an amplifier control signal;

coupling out part of the amplified radio-frequency signal via a directional coupler;

passing the coupled out part of the amplified radio-frequency signal to a power detector;

passing an output voltage of the power detector for difference-forming with a separate control signal to inputs of a comparator circuit;

readjusting an output of the comparator circuit, as the amplifier control signal, to increase a power output level;

continuing the readjustment until the output voltage of the detector and a voltage of the separate control signal at the inputs of the comparator circuit compensate for one another; and

opening the control loop and keeping the amplifier control signal constant for a duration of a data transmission.

2. A method for controlling amplification of a high-frequency intermittent signal as claimed in Claim 1, the method further comprising the step of:

making a switchover into a hold mode, after a controlled up-ramping of a power output level of the radio-frequency signal to be amplified, with the gain kept constant.

3. A method for controlling amplification of a high-frequency intermittent signal as claimed in Claim 1, the method further comprising the step of:

storing the amplifier control signal for constant setting in a sample-and-hold circuit before beginning the data transmission.

4. A method for controlling amplification of a high-frequency intermittent signal as claimed in Claim 2, the method further comprising the step of:

making a switchover into a control mode, after the hold mode with a gain kept constant, for the controlled up-ramping of the power output level of the radio-frequency signal to be amplified.

5. A method for controlling amplification of a high-frequency intermittent signal as claimed in Claim 4, wherein switching is performed back and forth between the hold and the control modes.

6. A method for controlling amplification of a high-frequency intermittent signal as claimed in Claim 4, wherein the switching over from the control mode to the hold mode occurs before the data transmission and switching back from the hold mode to the control mode occurs after the data transmission.

7. A method for controlling amplification of a high-frequency intermittent signal as claimed in Claim 2, the method further comprising the step of:

closing a second control loop, during the hold mode in the control loop, such that the output voltage of the comparator circuit is kept at the stored value of the amplifier control signal.

8. A method for controlling amplification of a high-frequency intermittent signal as claimed in Claim 7, the method further comprising the step of:

correcting a deviation between the output voltage of the comparator circuit and the stored value of the amplifier control signal by an additional operational amplifier in the second control loop.

9. A method for controlling amplification of a high-frequency intermittent signal as claimed in Claim 8, the method further comprising the step of:

correcting a deviation between an output voltage of the additional operational amplifier and the separate control signal so as to avoid control processes of the control loop due to a possible power drop.

10. A method for controlling amplification of a high-frequency intermittent signal as claimed in Claim 9, wherein the correction is performed after a phase of the data transmission.

11. A method for controlling amplification of a high-frequency intermittent signal as claimed in Claim 9, wherein the deviation between an output voltage of the additional operational amplifier and the separate control signal is established by a sampling operation shortly before a point in time which is one of a start of a down-ramping and a controlled power output reduction.

12. A method for controlling amplification of a high-frequency intermittent signal as claimed in Claim 9, wherein the deviation between the output voltage of the operational amplifier and the separate control signal is held in a sample-and-hold circuit and subtracted from the separate control signal to form a new control signal.

13. A method for controlling amplification of a high-frequency intermittent signal as claimed in Claim 9, wherein switches are switched by a switch control signal at a same time and substantially without delay.

14. A method for controlling amplification of a high-frequency intermittent signal as claimed in Claim 1, the method further comprising the steps of:

simulating a variation over time of the power output level during one of up-ramping and down-ramping by the separate control signal; and

predetermining a respectively desired power output level.

15. A method for controlling amplification of a high-frequency intermittent signal as claimed in Claim 1, wherein the separate control signal and the switch control signal are generated in a control part.

16. A method for controlling amplification of a high-frequency intermittent signal as claimed in Claim 15, wherein the separate control signal and the switch control signal are generated in the control part based on a predetermined time pattern of a respective mobile radio standard.

17. A unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal, comprising:

a control loop for controlling a power output level of a high-frequency signal to be amplified;

a variable gain amplifier in the control loop, an input being connected to the variable gain amplifier and a gain of the variable gain amplifier being formed such that it can be controlled via an amplifier control signal;

a directional coupler in the control loop, the directional coupler for coupling out part of the output power of the amplified high-frequency signal;

a power detector provided at an output of the control loop, the power detector receiving from the directional coupler the coupled out part of the output power of the amplified high-frequency signal; and

a comparator circuit connected to the power detector for receiving an output voltage of the power detector, the comparator circuit determining a difference between a separate control signal connected to the comparator circuit and the output voltage of the detector, the comparator circuit correcting the difference via an adaptation of the amplifier control signal as an output signal of the comparator

circuit, wherein provisions are made to open the control loop and keep the amplifier control signal constant for a duration of a data transmission.

18. A unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in Claim 17, further comprising a switch for opening and closing the control loop via a switch control signal for interrupting the control loop.

19. A unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in Claim 18, further comprising a sample-and-hold circuit in the control loop for keeping the amplifier control signal constant.

20. A unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in Claim 19, wherein the switch connects the sample-and-hold circuit when the control loop opens.

21. A unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in Claim 17, wherein the comparator circuit is an operational amplifier designed as an integral-action controller.

22. A unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in Claim 17, further comprising a linear amplifier with a constant gain factor following the variable gain amplifier for further amplification of the radio-frequency signal to be amplified.

23. A unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in Claim 17, wherein the directional coupler has a constant coupling factor of –15 dB.

24. A unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in Claim 17, further comprising a second control loop for correcting a deviation between the output signal of the comparator circuit and a stored value of the amplifier control signal.

25. A unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in Claim 24, further comprising a further operational amplifier with an integrating property in the second control loop.

26. A unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in Claim 25, further comprising a device for correcting a deviation between the separate control signal and an output signal of the second control loop.

27. A unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in Claim 26, further comprising means for correcting a difference between a gain held in the control loop and a predetermined set point gain of the control loop, wherein undesired control processes do not occur within the control loop when switching from a hold mode into a control mode.

28. A unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in Claim 27, wherein the means for correcting includes a sample-and-hold circuit for sampling an output signal of the further operational amplifier.

29. A unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in Claim 27, wherein the means for correcting includes a voltage-controlled voltage source for adapting the separate control signal, designed for generating an adapted control signal by subtraction of a difference, determined on the basis of a sampling operation.

30. A unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in Claim 18, further comprising a control part for generating the separate control signal and the switch control signal based on a prescribed time pattern of a respective mobile radio standard.

31. A unit for at least one of transmitting and receiving, and for controlling amplification of a high-frequency intermittent signal as claimed in Claim 17, wherein the unit is contained in a mobile terminal of at least one of a cellular data network and a communication network.

32. A communication system with a transmitting unit and a receiving unit for exchanging data via an intermittent radio frequency signal, the system comprising:

a control loop for amplification of a high-frequency signal provided in the transmitting unit; and

means for interrupting the control loop and means for keeping an amplifier control signal constant over a certain time period provided in the control loop, the means for interrupting and the means for keeping designed for activation via control signals.

33. A communication system with a transmitting unit and a receiving unit for exchanging data via an intermittent radio-frequency signal as claimed in

Claim 32, wherein at least one of the transmitting unit and the receiving unit is configured as a mobile unit.

34. A communication system with a transmitting unit and a receiving unit for exchanging data via an intermittent radio-frequency signal as claimed in Claim 34, wherein the mobile unit is at least one of a mobile telephone and a mobile data transmission device.